

DME Valve Gate Controls

ENERGY EFFICIENT, RELIABLE
AND COMPACT HYDRAULIC AND
PNEUMATIC CONTROLS



Valve Gate Controls

DME Valve Gate Controller Products and Solutions

- Solid-state timers and relays have a life rating of 10 million cycles
- Robust power supply
- User-friendly auto-reset function
- Individual test buttons for each zone provide precise time control to .01 second
- Compact design takes up minimal space
- Air-powered operation runs on 120 VAC and an air line
- Accumulator stores precharged oil, allowing for instantaneous operation

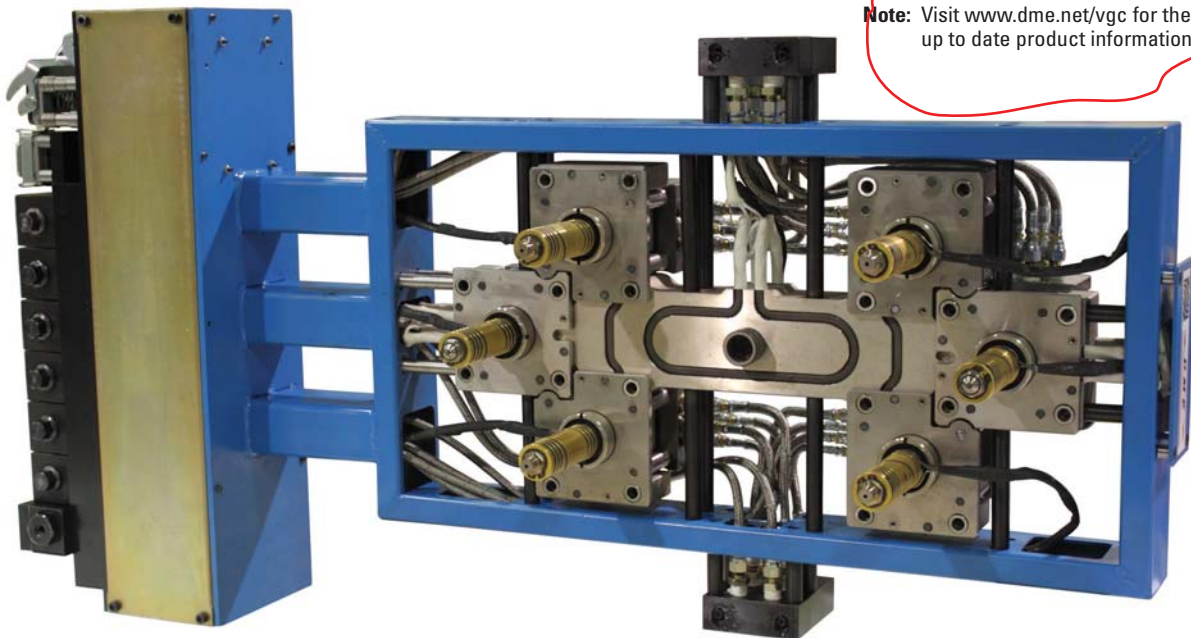
Hydraulic and pneumatic valve gate controls provide reliable, accurate and efficient control

Valve gate sequencers from DME are available in pneumatic or hydraulic control for timer-based actuation of up to sixteen valve gates. Offering faster response than typical valve gate controllers and greatly reduced electrical use over the life of the unit, DME Valve Gate Controls provide reliable, accurate, highly efficient time control for years of use.

Controllers feature highly accurate (resolution to 1/100 of a second) DIN-style solid state timers, individually fused against faults, to provide long life and high reliability. Each timer zone is capable of dual time functions, allowing each zone to be programmed with a delay-time and an on-time. Test functions for each zone assist in determining the correct hookup of each valve.

The controllers operate from a wide supply of operating voltages (88 to 264 volts AC), making them easy to relocate between different plants or even different countries. The standard product is offered with a 125 volt AC plug (North American Standard). This plug can be removed and replaced with any number of 240 VAC plugs.

Note: Visit www.dme.net/vgc for the most up to date product information.



DME Valve Gate Controls can operate any valve gate system, including the new Drop-In System, pictured above.

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Hydraulic Control System Solutions

Items included in System Solutions

- VCTB-03-024D-16 DME 16-Zone Valve Controller
- FSSL-0001 DME Slanted Floor Stand
- FSDP-0001 DME Mounting and Drip Pan
- Trigger Cable RPM0101
- Alarm Connector hood and crimp pins
- Hydraulic Valve Manifold(s) with +24Vdc Solenoids and all wiring to connectors for the DME Controller
- Hydraulic Pumping Supply System (5 GPM Oil at 1:10 ratio of input air Max 100 PSI Air / 1,000 PSI Oil)
- About a 10-gallon Reservoir Tank
- Air over Hydraulic Supply Pump
- 1 Gallon Accumulator
- Hydraulic Oil Filter Status Indicator
- Air Pressure Regulator – 1:10 Ratio Adj. Hydraulic Pressure i.e., 60 PSI Air Pressure equals approximate 600 PSI Hydraulic Pressure
- Air Valve On/Off Control Solenoid Valve
- Accumulator Dump Solenoid Valve
- Hydraulic Oil Temp Alarm Switch
- Hydraulic Oil Level Alarm Switch
- Hydraulic Oil Pressure Alarm Switch

Customer connections and items not supplied:

- Trigger Signal to start the Cycle, typically Injection Forward
- Recommended Optional Alarm Output Contact to Stop Next Injection Molding Machine Cycle
- Inlet Shop Air: 30-100 PSI at Max Volume of 50 CFM
- Connect to Two Male Hydraulic Couplers per Zone
- Customer Supply Electrical Power
 - 115-250 VAC 50/60 Hz
 - Internally Fused Slow Blow Fuses at 7 Amps
 - Inrush Current at 115 Vac is 20 Amps
 - Inrush Current at 230 Vac is 40 Amps
 - 19 Ft. USA 120 Vac 15 Amp 3-prong plug supplied – customer responsible for other plug requirements
- Hydraulic Oil (10 Gallons of Mobil DTE 25 / ISO Grade 46 or equivalent for 8-Gallon tank and after filling hoses, manifold and Valve Gate Cylinders in the Mold)



DME VCTH-03-16 shown.

HYDRAULIC CONTROL SYSTEM SOLUTIONS	
ITEM NUMBER	DESCRIPTION
VCTH-03-04	4 ZONE HYDRAULIC TIME SYSTEM
VCTH-03-06*	6 ZONE HYDRAULIC TIME SYSTEM
VCTH-03-08	8 ZONE HYDRAULIC TIME SYSTEM
VCTH-03-12*	12 ZONE HYDRAULIC TIME SYSTEM
VCTH-03-16	16 ZONE HYDRAULIC TIME SYSTEM

* Indicates Non-Stocked Model

HYDRAULIC CONTROL SYSTEM ACCESSORIES	
ITEM NUMBER	DESCRIPTION
VCAH1500	15-ft long Hydraulic Hose Assembly with Female Quick Connect Coupler on each end – two required per zone of control
991-2 See DME MRO	Steel Hydraulic MALE Coupler for Mold Side connector and as replacement part for system. (Has ¼" NPT Female Threads)
990-2 See DME MRO	Steel Hydraulic FEMALE Coupler for direct connect to the system. (Has ¼" NPT Female Threads)
See DME MRO	DME MRO carries many competitively priced hydraulic and shop air products, such as regulators, connectors, hoses, disconnects, etc. They also carry many other products found around the molding shop.

DME Valve Gate Controller Products and Solutions

VCTB-03-024D-16



One- to sixteen-zone, 24 Volt DC Valve Gate Controller

The VCTB-03-024D-16 Valve Gate Controller is designed to provide time based control of up to sixteen 24 volt DC solenoid valves used to actuate valve gate pneumatic or hydraulic cylinders. This controller has the same form factor as the Standard 12 zone DME SmartSeries Hot Runner Controller Mainframe size. The Controller uses a PLC with programmable timers to provide long life and high reliability. Each timer zone is capable of dual time functions so that each zone can be programmed with a "delay off" time and an "on time". The timers in turn drive larger solid state relays that are individually fused against faults. The Controller is designed to operate from a wide supply of operating voltages (88 to 264 Volts AC) so that this one device can be used with almost any available power source. This also makes it easier to relocate the controller between different plants or even different countries. The standard product offering comes with a 125 volt AC plug (North American Standard). This plug may be removed and replaced with any number of 240 VAC plugs.

Two DB-025 connectors are provided to remotely connect Standard DME VCAP Pneumatic Air Valve Assembly product lines which are sold separately and include their own cables.

The First "VCAP OUT 1" DB-25 connector can directly control standard DME VCAP-0400 (4 zone), VCAP-0600 (6 zone), VCAP-0800 (8 zone), VCAP-1000 (10 zone) or the VCAP-1200 (12 zone). If 16 zones are required, then two VCAP-0800 (8 zone) Air Valve assemblies are used with first VCAP-0800 attached to the "VCAP OUT 1" DB-25 connector for timer zones 1-8, and the second VCAP-0800 (8 zone) attached to the "VCAP OUT 2" DB-25 connector for zones 9-16. Note that zones 9-12 are duplicated/run in parallel on both DB25 connectors for this purpose. These assemblies minimize required wiring and air connections, thereby making the molding environment neater. These connectors are designed to work only with the low amp current DME VCAP air assembly solenoids which are only 1.2 Watts each.

For other systems that have independent valve connections, two 16-pin connectors with screw terminals labeled "MAIN OUT 1" and "MAIN OUT 2" are provided for customers' individual valve connections for zones 1-8 and 9-16.

Manual Screen Mode Test buttons are available for each zone to assist in determining the correct hookup of each of the valves. See OPERATION, Manual Mode.

VCAP Air Valve Assemblies

VCAP multi-station air valve assemblies

The VCAP series offers 4-station (0400), 6-station (0600), 8-station (0800), 10-station (1000), and 12-station (1200) valve assemblies. The single-solenoid valves are spring returned and designed to run from 24 VDC +/- 10%. The air supply (maximum rated pressure 145 PSI) can be lubricated or non-lubricated — dry air is preferred but the valve is designed to tolerate some moisture.

Quick connects are provided on all air outputs to accept standard 1/4" tubing. The de-energized outputs, used for closing valve gates, feature check valves to ensure that unused valves do not leak air.

ITEM NUMBER	DESCRIPTION
VCAP-0400	4-STATION AIR VALVE ASSEMBLY
VCAP-0600	6-STATION AIR VALVE ASSEMBLY
VCAP-0800	8-STATION AIR VALVE ASSEMBLY
VCAP-1000	10-STATION AIR VALVE ASSEMBLY
VCAP-1200	12-STATION AIR VALVE ASSEMBLY

Note: Each valve assembly includes a valve cable.



Compact 4-zone pneumatic or hydraulic control unit

The VCTB4000 Valve Gate Controller is designed to provide timer-based control of up to four 24 volt DC valves used to actuate pneumatic valve gate cylinders as well as some hydraulic valves, and features a user-friendly auto-reset feature. Its compact size makes it extremely portable and requires minimal space. A single DB-025 cable connects the controller to up to four remotely located valves, minimizing wiring and air connections.

ITEM NUMBER	DESCRIPTION
VCTB-4000	4-ZONE PNEUMATIC HYDRAULIC CONTROLLER
VCPT-0100	100-FT. LENGTH OF PNEUMATIC TUBING

Note: Trigger signal cable included with controller.



Highly accurate DME solid state timers feature resolution to 1/100 of a second, far exceeding the industry standard of 1/10 of a second.

DME Single Zone Timer

DME Single Zone Timer: TCM-03-024D

Versatile for virtually any type of operation that requires a timer, including single-zone valve gate systems, core pulls, and air sweeps.

- Unit plugs directly into DME Smart Series Mainframes
- Test button (green light indicates power out)
- Yellow light indicates trigger signal being applied or timer in operation
- Trigger signal has two available sources – dry set of contacts or 24 VDC input
- Trigger input signal can be ganged to operate more than one timer when multiple units are used (24 VDC input only)
- Input signal and output power can be used from timer front panel connectors or DME mainframe cables
- Thermocouple cable serves as trigger signal; power cable serves as 24 VDC power supply to any 24 VDC solenoid valve



Shown next to a SSM-15-12 Temperature Controller in a Standard 2 Zone Smart Series Mainframe.

DME Single Zone Timers (TCM-03-024D) are highly accurate, solid state timers that feature resolution to 1/100 of second, far exceeding the industry standard of 1/10 of a second.